

Case 3005

***Crotalus ruber* Cope, 1892 (Reptilia, Serpentes): proposed precedence of the specific name over that of *Crotalus exsul* Garman, 1884**

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Abstract. The purpose of this application is to conserve the long used and well known specific name of *Crotalus ruber* Cope, 1892 for the red diamond rattlesnake (family VIPERIDAE) of southern California, the peninsula of Baja California and some offshore islands, by giving it precedence over the less widely used name *C. exsul* Garman, 1884. The latter name refers to the rattlesnake of the Isla de Cedros, Baja California, Mexico, which some authors now consider to be conspecific with *C. ruber*.

Keywords. Nomenclature; taxonomy; Reptilia; Serpentes; VIPERIDAE; rattlesnakes; *Crotalus ruber*; *Crotalus exsul*; California; Mexico.

1. In 1884 Garman (p. 114) described a rattlesnake *Crotalus exsul* from the Isla de Cedros, Baja California, Mexico. He mentioned two specimens (catalog no. MCZ 652 in the Museum of Comparative Zoology at Harvard University, Cambridge, Massachusetts). Garman's publication was printed in 1883 but not issued until July 1884 (see the MCZ Annual Report for 1883–1884, pp. 23, 32; the MCZ library copy is stamped '19 June 1884'). In 1892 Cope (p. 690) described a rattlesnake which is commonly known as the red diamond rattlesnake. This was originally published as *Crotalus adamanteus ruber* and was based on a single specimen, catalog no. USNM 9209 in the U.S. National Museum, Washington. No locality was mentioned and subsequently Smith & Taylor (1950, p. 356) restricted the type locality to Dulzura, San Diego Co., California.

2. For nearly 70 years (since Klauber, 1930, pp. 20–21) the range of *Crotalus exsul* Garman, 1884 has been accepted as solely the Isla de Cedros, whereas its close relative, the red diamond rattlesnake, *C. ruber* Cope, 1892 has been understood to extend from southern California throughout the peninsula of Baja California and on some of its offshore islands.

3. The two taxa have, however, long been regarded as only weakly differentiated (see, for example, Brattstrom, 1964, p. 244; Campbell & Lamar, 1989, p. 348). Grismer, McGuire & Hollingsworth (1994, p. 69) regarded Minton (1992, who used the name *Crotalus exsul*) as the earliest author to regard them as conspecific, but this was an error, as pointed out by Murphy et al. (1995) and confirmed by Minton himself (personal communication); he had only a single specimen, from Isla de Cedros. Possibly following that misinterpretation, Grismer (1993, p. 4) implied conspecificity by using the trinomen *C. exsul exsul* without comment. Grismer & Mellink (1994, p. 124) subsequently mentioned that they regarded the two taxa as

conspecific, but it remained for three of the authors of the present application (see Grismer, McGuire & Hollingsworth, 1994, p. 71) and Murphy et al. (1995) to defend that conclusion. In both the latter works, and in Grismer (1994a, p. 81; 1994b, pp. 20–21), the name *C. exsul* Garman, 1884 was adopted for the species.

4. Murphy et al. (1995, p. 271) noted that change of a long-recognized name for a species is sure to create extensive confusion and should be avoided if at all possible. Yet the same authors were forced to the conclusion that the two nominal species are inseparable and, with obvious reluctance, they adopted (p. 278) the name *C. exsul* for the single species. They also argued for the recognition of the subspecies *C. exsul ruber* from southern California and Baja California, and the insular *C. e. lorenzoensis* Radcliffe & Maslin, 1975, in addition to the nominotypical *C. e. exsul* limited to Isla de Cedros. On the other hand, Grismer, McGuire & Hollingsworth (1994) concluded that no subspecies of the taxon, with the possible exception of *C. e. lorenzoensis*, warranted recognition, and that interpretation would mean the complete elimination of the specific name *ruber*.

5. The name *Crotalus exsul* for the Isla de Cedros snakes has a long history of usage to the present time, but unquestionably the literature using *C. ruber* is profoundly more abundant and significant than that using *C. exsul*. *Crotalus ruber* has been far more prominent in medical, experimental, biochemical, anatomical and ecological works than *C. exsul*, and as an inhabitant of southern California the species has been the subject of a large number of popular, pedagogical and governmental publications. The difference in the amount of literature can be documented by a tabulation of the references of the two nominal taxa listed in the index volumes for Mexican herpetology (Smith & Smith, 1976, 1993), which are nearly exhaustive for the literature on Mexico (though less so for adjacent areas). For various name combinations of *C. ruber*, 428 different works by some 414 authors are listed for the years 1892–1990; and for *C. exsul*, 100 works by 80 authors during the period 1883–1989. The coverage for Mexico was made as complete as possible, but the difference in usages of the names undoubtedly is considerably greater than here indicated because no attempt was made to exhaust the literature on the species as a whole. References for the use of the names in California would surely yield a much higher proportion of those for *C. ruber* because this species alone occurs there. Representative lists of 31 additional references for the usage of *ruber* from 1989 to 1998, and 16 additional references for *exsul* from 1988 to 1998, are held by the Commission Secretariat. Both names are used in the following recent international works of reference: Weidensaul (1991), Welch (1994), Frank & Ramus (1995), Mara (1995), Mattison (1995) and Wüster, Golay & Warrell (1997).

6. The International Commission on Zoological Nomenclature is accordingly asked:

- (1) to use its plenary powers to give the name *ruber* Cope, 1892, as published in the trinomen *Crotalus adamanteus ruber*, precedence over the name *exsul* Garman, 1884, as published in the binomen *Crotalus exsul*, whenever the two are considered to be synonyms;
- (2) to place on the Official List of Specific Names in Zoology the following names:
 - (a) *ruber* Cope, 1892, as published in the trinomen *Crotalus adamanteus ruber*, with the endorsement that it is to be given precedence over the name *exsul*

Garman, 1884, as published in the binomen *Crotalus exsul*, whenever the two are considered to be synonyms;

- (b) *exsul* Garman, 1884, as published in the binomen *Crotalus exsul*, with the endorsement that it is not to be given priority over *ruber* Cope, 1892, as published in the trinomen *Crotalus adamanteus ruber*, whenever the two are considered to be synonyms.

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Comments on this case are invited for publication (subject to editing) in the *Bulletin*; they should be sent to the Executive Secretary, I.C.Z.N., clo The Natural History Museum, Cromwell Road, London SW7 5BD, U.K. (e-mail: iczn@nhm.ac.uk).